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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,637	06/21/2001	John Kullman	1680	6137

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EXAMINER	
FOX, BRYAN J	

ART UNIT	PAPER NUMBER
2686	

DATE MAILED: 10/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/886,637	KULLMAN ET AL.	
	Examiner	Art Unit	
	Bryan J Fox	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 July 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8,9,11-16,18,21-23,25,28-37 and 42* is/are rejected.

7)☒ Claim(s) *7, 10, 17, 19, 20, 24, 26, 27 and 38-41* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 11-15, 21-22, 28-33, 35-37 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Stead (US 20020151313A1).

Regarding claim 1, Stead discloses a system that provides location information concerning wireless telephones in a form that is commercially useful (see page 2, paragraph 12), which reads on the claimed "In a cellular wireless system having a plurality of sectors, a method of communicating a geographic location of a given sector, so as to facilitate a location-based service with respect to the given sector". The system finds the sector that transmitted the signal and outputs a polygon associated with each sector in the wireless network, the polygon representing where the mobile device is likely to be located (see page 4, paragraphs 43 and 44), which reads on the claimed "establishing a PI-based location to represent the given sector". The wireless network 20 provides location data both to commercial entities via a global interconnected network of networks 40 and to a Public Safety Access Point 30 (see page 2, paragraph 24 and figure 1), which reads on the claimed "communicating the PI-based location as a

representation of the geographic location of the given sector". Information such as the nearest ATM may be satisfactorily answered by providing this location data to the relevant service provider 50 or merchant 60 who may then respond with an answer to the geographic proximity question with point-of-interest information (see page 2, paragraph 25), which reads on the claimed "whereby the location-based service is performed based on the PI-based location". A polygon is associated with each sector in the wireless network (see page 4, paragraph 44), which reads on the claimed "process comprising determining a polygon of influence of the given sector with respect to at least one other sector."

Regarding claim 2, Stead discloses a system allowing merchant-initiated commerce, where the service provider 50 or the merchant 60 receives information data indicating when a wireless subscriber is in their proximity (see page 2, paragraph 26), which reads on the claimed "location-based service comprises locating a mobile station positioned in the sector".

Regarding claim 3, Stead discloses that the information may be provided to a public safety user (see page 4, paragraph 56), which reads on the claimed "emergency assistance".

Regarding claim 4, Stead discloses that the determination of the polygon is provided as a series of measurements at different coordinates (see page 4, paragraph 47), which reads on the claimed "the PI-based location comprises the polygon of influence for the given sector with respect to adjacent sectors, the polygon of influence being defined by a plurality of geographic coordinates".

Regarding claim 5, Stead discloses that a single point may be provided, such as the centroid of the polygon (see page 4, paragraph 46), which reads on the claimed "the PI-based location comprises a geographic position within a polygon of influence for the given sector".

Regarding claim 11, Stead discloses a system that provides location information concerning wireless telephones in a form that is commercially useful (see page 2, paragraph 12), which reads on the claimed "method of communicating mobile station location in a cellular wireless system, the cellular wireless system having a plurality of sectors". The system finds the sector that transmitted the signal (see pages 3-4, paragraphs 39-42), which reads on the claimed "determining that a mobile station is located in a given sector of the plurality of sectors" and outputs a polygon associated with each sector in the wireless network, the polygon representing where the mobile device is likely to be located (see page 4, paragraphs 43 and 44), which reads on the claimed "establishing a PI-based location to represent the given sector". The wireless network 20 provides location data both to commercial entities via a global interconnected network of networks 40 and to a Public Safety Access Point 30 (see page 2, paragraph 24 and figure 1), which reads on the claimed "communicating the PI-based location as a representation of where the mobile station is located". A polygon is associated with each sector in the wireless network (see page 4, paragraph 44), which reads on the claimed "process comprising determining a polygon of influence of the given sector with respect to at least one other sector."

Regarding claim 12, Stead discloses that the determination of the polygon is provided as a series of measurements at different coordinates (see page 4, paragraph 47), which reads on the claimed "the PI-based location comprises the polygon of influence for the given sector with respect to adjacent sectors, the polygon of influence being defined by a plurality of geographic coordinates".

Regarding claim 13, Stead discloses that a single point may be provided, such as the centroid of the polygon (see page 4, paragraph 46), which reads on the claimed "the PI-based location comprises a geographic position within the polygon of influence for the given sector".

Regarding claim 14, Stead discloses a system that stores and updates information relating to sector performance in a database 220 (see page 3, paragraph 29), which reads on the claimed "maintaining data that correlates each sector of the plurality of sectors with a respective PI-based location", and location information to be used according to the present invention is based on this sector performance information in the wireless network modeling database (see page 3, paragraph 30), which reads on the claimed "establishing the PI-based location to represent the given sector comprises using data to identify a PI-based location for the given sector".

Regarding claim 15, Stead discloses a network modeling database 220 that returns geographic shape data for a sector (see page 3, paragraph 32), which reads on the claimed "the data comprises a database table in which each record indicates a PI-based location for a respective sector".

Regarding claim 21, Stead discloses a system that has a modeling database 220 that models the sector by sector performance of the wireless network (see page 3, paragraph 29), which reads on the claimed "establishing PI-based locations for all of the sectors". This information is provided for retrieval by interested parties on the network (see page 3, paragraph 32), which reads on the claimed "using the data file to identify a PI-based location for the given sector". The information may be updated (see figure 4) and new shapes updated (see page 3, paragraph 36) and if the information is updated, it must be stored, which reads on the claimed "storing the PI-based locations in a data file".

Regarding claim 22, Stead discloses that the database is updated when new information is provided (see page 3, paragraph 36 and figure 4), which reads on the claimed "repeating steps (a) and (b) periodically".

Regarding claim 28, Stead discloses that the location data concerning a particular handset is provided to database 230 for subsequent retrieval by interested parties on the network (see page 3, paragraph 32), which reads on the claimed "storing the PI-based location in a data store accessible to a recipient entity" and "whereby the recipient entity accesses the data store and obtains the PI-based location form the data store".

Regarding claim 29, Stead discloses that in one embodiment, the profile database returns to the initiating merchant 140 the requested location information via the network 40 (see page 3, paragraph 34), which reads on the claimed "transmitting

the PI-based location to a location-based service provider in response to a request for a location of the mobile station".

Regarding claim 30, Stead discloses that the information may be provided to a public safety user (see page 4, paragraph 56), which reads on the claimed "emergency service entity".

Regarding claim 31, Stead discloses that in one embodiment, the profile database returns to the initiating merchant 140 the requested location information via the network 40 (see page 3, paragraph 34), which reads on the claimed "transmitting the PI-based location to a location-based service system when establishing a communication session between the mobile station and the location-based service system".

Regarding claim 32, Stead discloses that the information may be provided to a public safety user (see page 4, paragraph 56), which reads on the claimed "emergency service entity".

Regarding claim 33, Stead discloses that in the subscriber-initiated commerce embodiment (see page 2, paragraph 25), the user of the communication device 10 deliberately seeks out information and causes location data concerning the wireless device to be provided to commercial entities and based on this request, the merchant responds through the network (disclosed in page 2, paragraph 25), which reads on the claimed "receiving a request to establish the communication session", where the merchant response following the user request and location data transmission the network reads on the claimed "communication session". As discussed above, the

location data is transmitted as claimed, and before the merchant responds they have the location information of the user, in order to provide information such as the nearest ATM (see page 2, paragraph 25).

Regarding claim 35, Stead discloses a system that provides location information concerning wireless telephones in a form that is commercially useful that finds the sector that transmitted the signal (see pages 3-4, paragraphs 39-42), which reads on the claimed "determining that a mobile station is located in a given sector of a cellular wireless system" and outputs a polygon associated with each sector in the wireless network, the polygon representing where the mobile device is likely to be located (see page 4, paragraphs 43 and 44), which reads on the claimed "selecting a PI-based location to represent the given sector". The wireless network 20 provides location data both to commercial entities via a global interconnected network of networks 40 and to a Public Safety Access Point 30 (see page 2, paragraph 24 and figure 1) to provide a service based on the location information, which reads on the claimed "performing a service based on the PI-based location". A polygon is associated with each sector in the wireless network (see page 4, paragraph 44), which reads on the claimed "process comprising determining a polygon of influence of the given sector with respect to at least one other sector."

Regarding claim 36, Stead discloses a system that provides location information concerning wireless telephones in a form that is commercially useful that finds the sector that transmitted the signal (see pages 3-4, paragraphs 39-42), which reads on the claimed "system for communicating mobile station location in a cellular wireless

system, the cellular wireless system having a plurality of sectors, the mobile station being located in a given sector of the plurality of sectors". The system outputs a polygon associate with each sector in the wireless network, the polygon representing where the mobile device is likely to be located (see page 4, paragraphs 43 and 44), which reads on the claimed "means for establishing a PI-based location to represent the given sector". The wireless network 20 provides location data both to commercial entities via a global interconnected network of networks 40 and to a Public Safety Access Point 30 (see page 2, paragraph 24 and figure 1, which reads on the claimed "means for communicating the PI-based location as a representation of where the mobile station is located".

Regarding claim 37, Stead discloses that the means for establishing a PI-based location to represent the given sector is a wireless network modeling database 220 at the IMPL server 200 and is a software module that models the sector by sector performance of the wireless network 20 (see page 3, paragraph 29), which reads on the claimed "machine language instructions...to geometrically establish the polygon of influence for the origin of the given sector with respect to the origins of adjacent sectors". The above database 220 reads on the claimed "data storage medium". The above described performance modeling must require processing, which reads on the claimed "processor".

Regarding claim 42, Stead discloses that in one embodiment, the profile database returns to the initiating merchant 140 the requested location information via the network 40 (see page 3, paragraph 34), which reads on the claimed "machine

language instructions stored in the data storage medium and executable by the processor to transmit the PI-based location to a recipient entity".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 6, 8, 9, 15, 18, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stead in view of LeBlanc et al. (US005508707A).

Regarding claim 6, Stead fails to expressly disclose the defining of a respective geographic origin.

LeBlanc et al. discloses a method for determining the position of a mobile unit in a wireless communication system (see column 1, lines 11-15), where, in order to aid in determining the location of a unit, a base station database with the latitude, longitude of the physical placement of the base station and whether or not a distributed antenna scheme is used, and if so, placement of all remote antennas (see column 15, lines 1-

36), which reads on the claimed "each sector of the plurality of sectors defines a respective geographic origin". The system in Leblanc et al. locates the unit by defining a bounding polygon in which the unit must be located (see column 14, lines 48-53), which reads on the claimed "geometrically establishing the polygon of influence for the origin of the given sector with respect to the origins of adjacent sectors".

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Stead with Leblanc et al. to include the above use of the origins of the antennas in order to account for variables involved in propagation prediction such as clutter as suggested by LeBlanc et al. (see column 15, lines 1-8).

Regarding claim 8, the combination of Stead and LeBlanc et al. discloses that the location information is in the form of a polygon (see Stead page 4, paragraph 44), which reads on the claimed "the PI-based location comprises the polygon of influence".

Regarding claim 9, the combination of Stead and LeBlanc et al. discloses that if the application requires a single point instead of a polygon and may calculate the centroid of the polygon (see Stead page 4, paragraph 46), which reads on the claimed "establishing as the PI-based location a representative point within the polygon of influence".

Regarding claim 16, Stead fails to expressly disclose the use of the origin of a sector.

LeBlanc et al. discloses a method for determining the position of a mobile unit in a wireless communication system (see column 1, lines 11-15), where, in order to aid in determining the location of a unit, a base station database with the latitude, longitude of

the physical placement of the base station and whether or not a distributed antenna scheme is used, and if so, placement of all remote antennas (see column 15, lines 1-36). The unit is located by defining a bounding polygon in which the unit must be located (see column 14, lines 48-53), which reads on the claimed "geometrically establishing, as the PI-based location, the polygon of influence for the origin of the given sector with respect to the origins of adjacent sectors".

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Stead with Leblanc et al. to include the above use of the origins of the antennas in order to account for variables involved in propagation prediction such as clutter as suggested by LeBlanc et al. (see column 15, lines 1-8).

Regarding claim 18, Stead discloses that if the application requires a single point instead of a polygon and may calculate the centroid of the polygon (see Stead page 4, paragraph 46), which reads on the claimed "establishing as the PI-based location a representative point within the polygon of influence". Stead fails to disclose the use of the origin of a sector.

LeBlanc et al. discloses a method for determining the position of a mobile unit in a wireless communication system (see LeBlanc et al. column 1, lines 11-15), where, in order to aid in determining the location of a unit, a base station database with the latitude, longitude of the physical placement of the base station and whether or not a distributed antenna scheme is used, and if so, placement of all remote antennas (see LeBlanc et al. column 15, lines 1-36), which reads on the claimed "each sector of the plurality of sectors defines a respective geographic origin". The system in Leblanc et al.

locates the unit by defining a bounding polygon in which the unit must be located (see LeBlanc et al. column 14, lines 48-53), which reads on the claimed "geometrically establishing the polygon of influence for the origin of the given sector with respect to the origins of adjacent sectors". The combination of Stead and LeBlanc et al. further discloses that if the application requires a single point instead of a polygon and may calculate the centroid of the polygon (see Stead page 4, paragraph 46), which reads on the claimed "establishing as the PI-based location a representative point within the polygon of influence".

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Stead with Leblanc et al. to include the above use of the origins of the antennas in order to account for variables involved in propagation prediction such as clutter as suggested by LeBlanc et al. (see column 15, lines 1-8).

Regarding claim 23, Stead Stead fails to expressly disclose the use of the origin of a sector.

LeBlanc et al. discloses a method for determining the position of a mobile unit in a wireless communication system (see LeBlanc et al. column 1, lines 11-15), where, in order to aid in determining the location of a unit, a base station database with the latitude, longitude of the physical placement of the base station and whether or not a distributed antenna scheme is used, and if so, placement of all remote antennas (see LeBlanc et al. column 15, lines 1-36). The unit is located by defining a bounding polygon in which the unit must be located (see LeBlanc et al. column 14, lines 48-53), which reads on the claimed "geometrically establishing, as the PI-based location for the

sector, the polygon of influence for the origin of the given sector with respect to the origins of adjacent sectors".

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Stead with Leblanc et al. to include the above use of the origins of the antennas in order to account for variables involved in propagation prediction such as clutter as suggested by LeBlanc et al. (see column 15, lines 1-8).

Regarding claim 25, Stead discloses that if the application requires a single point instead of a polygon and may calculate the centroid of the polygon (see Stead page 4, paragraph 46), which reads on the claimed "establishing as the PI-based location a representative point within the polygon of influence". Stead fails to expressly disclose the use of the origin of a sector.

LeBlanc et al. discloses a method for determining the position of a mobile unit in a wireless communication system (see LeBlanc et al. column 1, lines 11-15), where, in order to aid in determining the location of a unit, a base station database with the latitude, longitude of the physical placement of the base station and whether or not a distributed antenna scheme is used, and if so, placement of all remote antennas (see LeBlanc et al. column 15, lines 1-36), which reads on the claimed "each sector of the plurality of sectors defines a respective geographic origin". The system in Leblanc et al. locates the unit by defining a bounding polygon in which the unit must be located (see LeBlanc et al. column 14, lines 48-53), which reads on the claimed "geometrically establishing the polygon of influence for the origin of the given sector with respect to the origins of adjacent sectors".

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Stead with Leblanc et al. to include the above use of the origins of the antennas in order to account for variables involved in propagation prediction such as clutter as suggested by LeBlanc et al. (see column 15, lines 1-8).

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stead in view of Jacobson et al. (US006466796B1).

Regarding claim 34, Stead fails to expressly disclose including the location data in a session setup message.

Jacobson et al. discloses a system where, when a call to a location based service (see column 5, lines 55-63) is placed, which reads on the claimed "receiving a request to establish the communication session", the location data is included in the call set-up message (see column 6, lines 8-19 and figures 4 and 8), which reads on the claimed invention that sends the location data to the location-based service system in a session setup message. Since the data is included in the call set-up message (see figure 8), the location-based service system has the location upon establishment of the communication session as claimed.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Stead with Jacobson et al. to include the location data in a call set-up message in order to extend the call to the location based service provider that provides service to that location as suggested by Jacobson et al. (see column 2, lines 5-9).

Response to Arguments

Applicant's arguments filed 7/15/2004 have been fully considered but they are not persuasive.

The applicant argues in page 11 of the amendment that a polygon of influence is defined in the specification as a polygon in which substantially all points are closer to the origin of the sector than to the origins of any adjacent sector. The examiner notes this definition on page 6 of the specification, however, the examiner finds additional definitions of a polygon of influence in page 7 of the specification, for example, the first paragraph states that "alternatively, the PI-based location can be geographic coordinates of one or more points within the polygon, such as substantial midpoint of the polygon or of a minimum bounding rectangle drawn around the polygon." Additionally, the specification states that a technique for establishing a polygon of influence may be plotting the locations of base stations and drawing lines to form the polygons in the second paragraph of page seven of the specification. The method disclosed by Stead reads on at least the last definition (see Stead page 4, paragraphs 43 and 44 and 48-52).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan J Fox whose telephone number is (703) 305-8994. The examiner can normally be reached on Monday through Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (703) 305-4379. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marsha D. Banks-Harold

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